



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029**

November 30, 2018

Douglas Sutton
Project Coordinator
DS&G Remedial Trust
100 East Market Street, Suite 1
Newport, DE 19804

Re: EPA Partial Approval of PDI Work Plan
Delaware Sand & Gravel Landfill Superfund Site, New Castle, Delaware

Dear Dr. Sutton:

EPA and DNREC have reviewed the DS&G Remedial Trust's November 16, 2018 responses to comments on the PDI Work Plan, including the Sampling and Analysis Plan (SAP), and the RD Work Plan. EPA approves the responses to comments on the RD Work Plan. EPA approves the responses to comments on the PDI Work Plan, including the SAP, except as noted below:

Response to EPA comment 8 on PDI Work Plan: The response addresses previous work by Artesian, including development of a groundwater flow model, to address whether the water that is injected into the aquifer for temporary storage remains within the capture zone of the Llangollen well field. However, the response does not address the potential impacts of aquifer storage and recovery activities on the upgradient plume. Injection of water into the aquifer has the potential to reorganize flow patterns and divert portions of the distal end of the plumes to the east or west. Please provide a discussion regarding whether this has been evaluated. Also, please identify the monitoring system components in the downgradient portions of the plumes that address these uncertainties and whether the monitoring system is adequate given these considerations.

Response to EPA comments 17 on PDI Work Plan: Artesian's October 30, 2018 email to the DS&G Remedial Trust states that as long as withdrawal rates from wells AWC-2, -6, and -7 are near the allocated rates, groundwater capture on the eastern side of the Llangollen well field is maintained. Furthermore, it was noted that when the entire well field was shut down in 2009, fluoride was detected only at MW-2 and MW-3. EPA does not have complete information about withdrawal rates from the Llangollen production wells, whether withdrawal rates are consistently maintained, or if fluoride may not have been detected in certain monitoring wells due to insufficient travel time for groundwater flow to these wells under non-pumping conditions. At a minimum, it is recommended that water elevations are taken from monitoring wells MW-1 through MW-5 and additional monitoring locations to verify containment of the plumes. Please identify the monitoring system components in the downgradient



portions of the plumes that address these uncertainties. If the hydraulics indicate that complete capture may not be occurring, it may be necessary to sample these wells in the future. Depending on the location of these wells, the installation of additional wells may also be necessary.

Response to EPA comment 23 on the PDI Work Plan: The response states that transition zone wells will be installed at new well locations DDA-19, UPA-102, UPA-103, UPA-104, UPA-105B, and UPA-106 provided the transition zone exists in each of these areas. Transition zone wells should also be installed at locations UPA-107 and UPA-108 if the transition zone is present.

Response to EPA comment 33 on the PDI Work Plan and SAP: As discussed by telephone on November 29, 2018, the DS&G Remedial Trust will propose an alternate purging and sampling method for wells with long well screens to EPA by December 7, 2018. The proposal will include purging of three well volumes from selected wells and will specify the rationale for choosing wells for the alternate purging and sampling methodology.

Response to EPA comment 36 on the SAP: Golder Associates provided EPA with additional information regarding Eurofins Lancaster Laboratory's modified Method 537 for the analysis of PFAS in groundwater samples on November 27, 2018. EPA will notify the DS&G Remedial Trust of the acceptability of Eurofins' method for analysis of Site samples once Region 3's Office of Analytical Services and Quality Assurance has completed its review of the material.

EPA understands that the driller is expected to mobilize to the Site on December 3, 2018. Therefore, EPA approves those portions of the PDI Work Plan, including the SAP, pertaining to advancement of borings and installation and development of monitoring wells.

Please address the comments above and submit the revised PDI Work Plan and SAP to EPA and DNREC, for approval by EPA, no later than December 31, 2018. Please submit the revised RD Work Plan to EPA for approval no later than January 31, 2019.

Thank you.

Sincerely,



Debra Rossi
Remedial Project Manager
DE, VA, WV Remedial Branch

cc: Christina Wirtz, DNREC
John Andrade, Esq., DS&G Trust
Susanna Mays, DS&G Trust

